

Weekly Report

June 23rd, 2018

Done:

1. Had a meeting with emergency office. After the meeting, I realize the method they used is quite old-fashioned and simple visualization can benefit them a lot.
 - a. More data source provided
 - b. visualization should be more self-explained; system should be more real-time
 - c. more predicting scenarios: road closure; fire containment; after-fire hazards (land/mud slide, domino effect cause such future hazards).
2. A discuss to formalize the ideas on the data/vis provenance topic, see this google slide <https://docs.google.com/presentation/d/1ioht1VRccSsQBnv06aUmuW7saxFBIfU49zX-erSL9jo/edit?usp=sharing> (I am still modifying it, will be sent to Prof. Ma on Monday. I plan to involve one more guy here in the lab to join the discussion)
3. Experienced the HTC VIVE VR in a user study by Joseph. It is an interesting study on how to better teleport to explore in a VR environment.
4. Minor progress on the system

To Do:

1. I plan to speed up the data/vis provenance project so will have more discussion in the weeks to come.
2. Some modifications on the 研究生素质训练. As a start, I will borrow some ideas from 刘冬煜's ppt slides on "My Ph.D. in HKUST". Besides, I will add more materials about physically and mentally healthy part based on my readings on 知乎.
3. Try to integrate react-vis to render charts on the deck.gl map hover interaction. If failure, I will use D3 instead.

Paper reading:

1 VIS15 VA²: *A Visual Analytics Approach for Evaluating Visual Analytics Applications* 这是一篇老文章, 将“评估可视分析系统”这个做成了一个可视分析系统, 和最近的想法有一点类似, 但是其主要面向对象还是用户的交互(对系统, eye tracking, thinking aloud), 对我们而言我们仍要有侧重于数据方面的考量.

2 *Understanding the Basis of the Kalman Filter Via a Simple and Intuitive Derivation* 以及 *Understanding the Kalman Filter* 以及 youtube 教程: Kalman 滤波入门学习, 这是一种最近我经常见到的时间序列预测方法, 他不像别的深度学习那么复杂, 大体是一种线性的操作, 类似于 markov 模型, 但却在 NASA 都被使用. 在马哥 vis 论文的 review, 在火灾模型中都有提到他.

3 一些对于 GAN 和 reinforcement learning 的入门知识, 期望能套到当前的 idea 中, 作为辅助用户探索的一种方法.